



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/785,995

02/26/2004

Junichi Hara

MEI-102

2682

24956 7590 12/19/2006
MATTINGLY, STANGER, MALUR & BRUNDIDGE, P.C.
1800 DIAGONAL ROAD
SUITE 370
ALEXANDRIA, VA 22314

EXAMINER

MYINT, DENNIS Y

ART UNIT

PAPER NUMBER

2162

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
--	-----------	---------------

3 MONTHS

12/19/2006

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No. 10/785,995	Applicant(s) HARA ET AL.	
	Examiner Dennis Myint	Art Unit 2162	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 November 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 19-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 19-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 17 November 2006 has been entered.

The amendment filed on 17 November 2006 has been received and entered. Claims 19-34 are pending in this application. Claims 19 and 27-29 are independent claims. In the Amendment filed on 17 November 2006, claims 19, 27, 28, and 29 were amended.

Response to Arguments

Applicants' arguments with respect to the rejection under 35 U.S.C. § 103 have been considered but are not persuasive.

Referring to independent claims 19, 27, 28, and 29, Applicant argued that *In particular the reference does not disclose determining, on the basis of the source of an access request in the access history information, if data is requested from one of the information resource management devices other than an information management device which is coupled to one of the storage devices storing the requested data, or if data is requested a predetermined number of times from an information resource management device other than an information access management device that is coupled to a storage device storing the requested data, as claimed by the Applicant* (Page 11 of Applicant's argument).

In response, it is pointed out that Dettinger teaches collecting access history, which indicates a source of an access request as *To this end, various information (referred to herein as "access manager metrics") is recorded by the access manager 109 in a log 111. Illustratively, the access manager metrics include when a database request was issued, when the request was processed, the frequency of **request from particular client**, etc.* (Dettinger, paragraph 0025). The method and system of Dettinger then determines appropriate replications and replication schedules, based on the source of an access request in the accessory history information (i.e., the log 111) (Dettinger, Paragraph 0025-26, i.e., *The access manager 109 may then utilize these metrics to determine whether replication is appropriate* (Paragraph 0025)); and *the replication schedule may be automatically generated by the access manager 109 according to the rules 110 and the metrics contained in the log 11* (Paragraph 0027).

Based on access history, which includes the source of an access request, the method and system of Dettinger determines if data is requested from one of the information resource management devices other than an information access management device which is coupled to one of the storage devices storing the requested data, and sends to an information access management device an instruction to copy the requested data (Figure 1A: Server 106; Paragraph 0025, i.e., *the access manager metrics include when a database request was issued, when the request was processed, the frequency of **request from particular client**, etc.* ; Paragraph 0026, i.e., *Illustrative threshold criteria 112 which may be checked by the rules 110 include time of day used, volume used, frequency of use, user class (e.g., managers, architects, users with read only access etc.) and user class tolerance of data latency; and* ; Paragraph 0027, i.e., i.e. *the replication schedule may be automatically generated by the access manager 109 according to the rules 110 and the metrics contained in the log 111* ; Figure 1A: Storage 118 and Paragraph 0023 i.e., *such as fixed drives*).

Duplicate Claims, Warning

Applicant is advised that should claim 27 be found allowable, claims 19 and 29 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 19-34 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

The claimed invention is directed to non-statutory subject matter because the claim does not require any physical transformation and the invention as claimed does not produce a tangible result.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States

Art Unit: 2162

only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim 19, 21-25, and 27-33 are rejected under 35 U.S.C. 102(e) as being anticipated by Dettinger et al., (hereinafter "Dettinger") (U.S. Patent Application Publication Number 2003/0093413).

As per claim 19, Dettinger is directed to a computer system and teaches the limitations:

"an access history management device and a plurality of information resource management devices coupled to a storage device and to a client computer" (Figure 1A: Access Manager 109; Figure 1A, 114, 115₁, 115₂, 115_N, and Paragraph 0021, i.e., a network connection 114; Figure 1B: Server 126₁, 126₂, and 126_N and Paragraph 0021, i.e., a plurality of client computers; and Figure 1B: Target Database 128₁, 128₂, and 128_N. Note that said plurality of client computers operate both as resource management devices and clients as in *Each of the client computers 120 includes a database management system 125₁.....125_N (collectively referred to as the database management systems)*,

"the information resource management devices record access requests for obtaining data received from one of the client computers and the information resource management devices as access history information, when the information resource management devices send data to the client computers and the information resource management devices" (Figure 1A: Server 106; Figure 1A: Access Manager 109; Figure 1A: Log 111),

"the access history management device collects the access history information from the plurality of the information resource management devices" (Figure 1A: Access Manager 109, and Paragraph 0025, i.e. *To this end, various information (referred to herein as access manager metrics) is recorded by access manager 109 in a log 111;), "and the access history information indicates a source of an access request" (Paragraph 0025, i.e., the access manager metrics include when a database request was issued, when the request was processed, the frequency*

Art Unit: 2162

of request from particular client, etc.), "the access history management device further determines, on the basis of the source of an access request in the access history information" (Paragraph 0027, i.e., the replication schedule may be automatically generated by the access manager 109 according to the rules 110 and the metrics contained in the log 11), "if data is requested from one of the information resource management devices other than an information access management device which is coupled to one of the storage devices storing the requested data, and sends to an information access management device an instruction to copy the requested data" (Figure 1A: Server 106; Paragraph 0025, i.e., the access manager metrics include when a database request was issued, when the request was processed, the frequency of request from particular client, etc. ; Paragraph 0026, i.e., illustrative threshold criteria 112 which may be checked by the rules 110 include time of day used, volume used, frequency of use, user class (e.g., managers, architects, users with read only access etc.) and user class tolerance of data latency; and ; Paragraph 0027, i.e., i.e. the replication schedule may be automatically generated by the access manager 109 according to the rules 110 and the metrics contained in the log 111 ; Figure 1A: Storage 118 and Paragraph 0023 i.e., such as fixed drives).

As per claim 21, Dettinger teaches the limitation:

"wherein if the data of the instruction to copy is used by the client computer that is coupled directly to an information resource management device, the access history management device sends an instruction for data replication" (Paragraph 0026, i.e., frequency of use; and Paragraph 0026-0027, i.e. the replication schedule may be automatically generated by the access manager 109 according to the rules 110 and the metrics contained in the log 111).

As per claim 22, Dettinger teaches the limitation:

“wherein said access history management device collects the access history information from the plurality of the information resource management devices at a predetermined timing that includes timing at predetermined intervals set in advance” (Figure 1A: Access Manager 109; Paragraph 0025, i.e., *To this end, various information (referred to herein as “access manager metrics”) is recorded by access manager 109 in a log 111; Paragraph 0027, i.e., the replication schedule may be automatically generated by the access manager 109 according to the rules 110 and the metrics contained in the log 111; and Paragraph 0027, i.e. For example, a database administrator for the server 102 may desire to schedule replication for off-hours in order to minimize network load).*

As per claim 23, Dettinger teaches the limitation:

“wherein said access history management device collects the access history information from the plurality of the information resource management devices at a predetermined timing that includes an arbitrary timing depending on said information resource management devices” (Figure 1A: Access Manager 109; Paragraph 0025, i.e., *To this end, various information (referred to herein as “access manager metrics”) is recorded by access manager 109 in a log 111; Paragraph 0027, i.e., the replication schedule may be automatically generated by the access manager 109 according to the rules 110 and the metrics contained in the log 111; and Paragraph 0027, i.e. For example, a database administrator for the server 102 may desire to schedule replication for off-hours in order to minimize network load).*

As per claim 24, Dettinger teaches the limitations:

"said access history management device further collects user information for identifying a user who has sent an access request for a plurality of information resources as a part of said access history" (Paragraph 0025, i.e., *the access manager metrics include when a database request was issued, when the request was processed, the frequency of requests from a particular client etc* and Paragraph 0026, i.e., *user class (e.g., managers, architects, users with read only access etc.) and user class tolerance of latency*),

"said instruction sending unit further sends a change instruction to change storage devices to store said plurality of information resources having been accessed by a same user" (Paragraph 0027, i.e., *the replication schedule 113 dictates when replication takes place* and Paragraph 0027, i.e., *replication* and Paragraph 0030-0031).

As per claim 25, Dettinger teaches the limitation:

"wherein said change instruction sent by said instruction sending unit further includes information for identifying an information resource management device controlling said storage device having stored said one or more information resources before the change" (Paragraph 0033, i.e., *the server 102 notifies the client 120 of the replication and the replication schedule as 113, as indicated by step 234* and *The client notification may be handled in any of a variety of methods. For example, in one embodiment the client 120 is notified by email. In another embodiment, the notification is provide to a user as an on-screen message upon attempting to access the primary database 104*).

Claim 27 is rejected on the same basis as claim 19.

Claim 28 is rejected on the same basis as claim 27.

As per claim 29, Dettinger is directed to an access history management device to be coupled to a plurality of resource management devices each of which is coupled to a storage device and to a client computer (Figure 1A: *Access Manager 109*; Figure 1A, 114, 115₁, 115₂, 115_N, and Paragraph 0021, i.e., *a network connection 114*; Figure 1B: *Server 126₁, 126₂, and 126_N* and Paragraph 0021, i.e., *a plurality of client computers*; and Figure 1B: *Target Database 128₁, 128₂, and 128_N*; Note that said plurality of client computers operate both as resource management devices and clients as in *Each of the client computers 120 includes a database management system 125₁, ..., 125_N (collectively referred to as the database management systems)* and teaches the limitations:

“the access history management device having a collecting unit that collects access history information from the plurality of the information resource management devices, the information resource management device recording an access request for obtaining data received from one of a client computer and other information resource management device as the access history information, which further indicates a source of an access request, when the information resource management device sends data to the one of the client computer and the other information resource management device, a determining unit that determines, on the basis of the source of an access request in the access history information, if data is requested from an information resource management device other than an information access management device which is coupled to a storage device storing the requested data, and a sending unit that sends to the information access management device an instruction to copy the requested data based on the results of the determining unit” (Figure 1A: *Access Manager 109*; Paragraph 0025, i.e. *To this end, various information (referred to herein as access manager metrics) is recorded by access manager 109 in a log 111*; Figure 1A: *Server 106*; Paragraph 0026-0027, i.e. *the replication schedule may be automatically generated by the access manager*

Art Unit: 2162

109 according to the rules 110 and the metrics contained in the log 111 ; Figure 1A: Storage 118 and Paragraph 0023 i.e., such as fixed drives; Paragraph 0033, i.e., the server 102 notifies the client 120 of the replication and the replication schedule as 113, as indicated by step 234 and The client notification may be handled in any of a variety of methods).

Claim 30 is rejected on the same basis as claim 22.

Claim 31 is rejected on the same basis as claim 23.

Claim 32 is rejected on the same basis as claim 24.

Claim 33 is rejected on the same basis as claim 25.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Art Unit: 2162

Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dettinger in view of Pudipeddi et al., (hereinafter "Pudipeddi") (U.S. Patent Application Publication Number 2002/0147881).

As per claim 20, Dettinger does not explicitly teach the limitation:

"wherein if the data of the instruction to copy is not used by the client computer that is coupled directly to the information resource management device, the access history management device sends an instruction for data migration" .

Pudipeddi teaches the limitation:

"wherein if the data of the instruction to copy is not used by the client computer that is coupled directly to the information resource management device, the access history management device sends an instruction for data migration"(Paragraph 0007, i.e., *migrate all files that have not been used for six months*).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to add the feature of migrating data that has not been used, as taught by Pudipeddi, to the system of Dettinger so that, in the resultant system, if the data of the instruction to copy is not used by the client computer that is coupled directly to the information resource management device, the access history management device sends an instruction for data migration. One would have been motivated to do so in order to do so because migration of data that is not used is notoriously well known in the art.

Claim 26 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dettinger in view of Jones et al., (hereinafter "Jones") (U.S. Patent Application Publication Number 2002/0169794).

Referring to claim 26, Dettinger does not explicitly teach the limitation: "wherein said storage device before the change has the shortest network distance from a storage device after the change".

Jones teaches the limitation:

"wherein said storage device before the change has the shortest network distance from a storage device after the change" (Paragraph 0010-0013). Jones teaches redundancy systems and methods in communication systems, wherein Open Shortest Path First Protocol (OSPF) is disclosed, which is used to provide shortest network paths (shortest network distance) (Paragraph 0010-0013).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine the feature of using Open Shortest Path First Protocol (OSPF) as taught by Jones et al. with the device for database replication as taught Dettinger et al. so that, in the combined device, the storage device before the change would have the shortest network distance from the storage device after the change. One would have been motivated to do so simply to provide *redundancy to ensure that routing information can be provided upon demand* (Jones, Paragraph 0011).

Claim 34 is rejected on the same basis as claim 26.

Art Unit: 2162

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dennis Myint whose telephone number is (571) 272-5629. The examiner can normally be reached on 8:30AM-5:30PM Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Breene can be reached on (571) 272-4107. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Dennis Myint

Examiner

AU-2162

John E. Breene
JOHN BREENE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100